

WHAT IS CLAIMED IS:

1. A composition for preventing or treating obesity and metabolic syndrome diseases, comprising a therapeutically and/or prophylactically effective amount of
5 Danshen (*Salvia miltiorrhiza*) extract as an effective ingredient.
2. The composition as set forth in claim 1, wherein the Danshen extract comprises one or more compounds selected from tetrahydrophenanthrene derivative and phenanthrene derivative.
- 10 3. The composition as set forth in claim 2, wherein the tetrahydrophenanthrene derivative comprises one or more compounds selected from the group consisting of cryptotanshinone and tanshinone IIA.
- 15 4. The composition as set forth in claim 2, wherein the phenanthrene derivative comprises one or more compounds selected from the group consisting of tanshinone I and 15,16-dihydrotanshinone I.
5. The composition as set forth in claim 2, wherein the Danshen extract
20 comprises one or more compounds selected from the group consisting of cryptotanshinone, tanshinone IIA, 15,16-dihydrotanshinone I and tanshinone I.
6. The composition as set forth in claim 5, further comprising:

one or more compounds selected from the group consisting of 1 β -hydroxycryptotanshinone, 1-oxocryptotanshinone, tanshinol B, tanshinol IIB, przewaquinone A, dihydroisotanshinone I, tanshinone IIA sulfonate, 1,2-dihydrotanshinone I and tanshinone VI.

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7. The composition as set forth in any one of claims 2 through 6, wherein the ratio of tetrahydrophenanthrene derivative: phenanthrene derivative is in the range of 10:1 to 1:10 (w/w).

10 8. The composition as set forth in claim 7, wherein the ratio of tetrahydrophenanthrene derivative: phenanthrene derivative is in the range of 5:1 to 1:5.

9. The composition as set forth in claim 8, wherein the ratio of tetrahydrophenanthrene derivative: phenanthrene derivative is in the range of 2.5:1 to
15 1:2.5.

10. The composition as set forth in claim 2, wherein the tetrahydrophenanthrene derivative includes cryptotanshinone and tanshinone IIA, and the ratio therebetween is in the range of 1:5 to 5:1 (w/w).

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11. The composition as set forth in claim 2, wherein the phenanthrene derivative includes 15,16-dihydrotanshinone I and tanshinone I, and the ratio therebetween is in the range of 1:5 to 5:1 (w/w).

12. The composition as set forth in claim 5, wherein the composition comprises cryptotanshinone as the main ingredient.

13. The composition as set forth in claim 5, wherein the composition comprises
5 15,16-dihydrotanshinone I as the main ingredient.

14. The composition as set forth in claim 5, wherein the composition comprises tanshinone IIA as the main ingredient.

10 15. The composition as set forth in claim 5, wherein the composition comprises tanshinone I as the main ingredient.

16. The composition as set forth in claim 5, wherein the composition comprises cryptotanshinone as the essential ingredient, and optionally, comprises one or more
15 compounds selected from the group consisting of tanshinone IIA, 15,16-dihydrotanshinone I and tanshinone I.

17. The composition as set forth in claim 5, wherein the composition comprises tanshinone IIA as the essential ingredient, and optionally, comprises one or more
20 compounds selected from the group consisting of cryptotanshinone, 15,16-dihydrotanshinone I and tanshinone I.

18. The composition as set forth in claim 5, wherein the composition comprises 15,16-dihydrotanshinone I as the essential ingredient, and optionally, comprises one or

more compounds selected from the group consisting of cryptotanshinone, tanshinone IIA and tanshinone I.

19. The composition as set forth in claim 5, wherein the composition comprises
5 tanshinone I as the essential ingredient, and optionally, comprises one or more compounds selected from the group consisting of cryptotanshinone, tanshinone IIA and 15,16-dihydrotanshinone I.

20. The composition as set forth in claim 16 or 18, wherein the composition
10 comprises both cryptotanshinone and 15,16-dihydrotanshinone I.

21. The composition as set forth in claim 16 or 17, wherein the composition comprises both cryptotanshinone and tanshinone IIA.

15 22. The composition as set forth in claim 17 or 18, wherein the composition comprises both tanshinone IIA and 15,16-dihydrotanshinone I.

23. The composition as set forth in claim 17 or 19, wherein the composition comprises both tanshinone IIA and tanshinone I.

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24. The composition as set forth in claim 18 or 19, wherein the composition comprises both 15,16-dihydrotanshinone I and tanshinone I.

25. The composition as set forth in claim 16 or 19, wherein the composition comprises both tanshinone I and cryptotanshinone.

26. The composition as set forth in any one of claims 20 through 25, wherein the
5 mixing ratio between both ingredients is in the range of 10:1 to 1:10 (w/w).

27. The composition as set forth in claim 26, wherein the mixing ratio is in the range of 5:1 to 1:5.

10 28. The composition as set forth in claim 1, wherein the metabolic syndrome disease is at least one selected from the group consisting of obesity, diabetes, arteriosclerosis, hypertension, hyperlipidemia, hepatic diseases, cerebral apoplexy, myocardial infarction, ischemic diseases and cardiovascular diseases.

15 29. The composition as set forth in claim 1, wherein the composition increases activity of 5' AMP-activated protein kinase (AMPK)

30. The composition as set forth in claim 29, wherein the composition increases activity of AMPK to promote cellular blood glucose uptake, thereby lowering blood
20 glucose level.

31. The composition as set forth in claim 29, wherein the composition increases activity of AMPK to exhibit obesity-inhibitory activity.

32. The composition as set forth in claim 29, wherein the composition increases activity of AMPK to exhibit blood lipid-lowering activity.

33. The composition as set forth in claim 29, wherein the composition increases
5 activity of AMPK to exhibit activity of inhibiting hepatocytic damage and formation of fatty liver.

34. The composition as set forth in claim 29, wherein the composition increases activity of AMPK to exhibit therapeutic activity on arteriosclerosis, hypertension,
10 cerebral apoplexy, ischemic diseases and cardiovascular diseases.

35. A pharmaceutical formulation for preventing and/or treating obesity and metabolic syndrome diseases, comprising the composition of claim 1 as the active ingredient and one or more pharmaceutically acceptable carriers or excipients.

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36. The formulation as set forth in claim 35, wherein the content of the active ingredient is in the range of 0.0001 to 10% by weight.

37. The formulation as set forth in claim 35, wherein the formulation is a multi-
20 or unit-dosage form for oral or parenteral administration, including tablets, powder, hard or soft capsules, suspensions, injectable preparations and emulsions.

38. The formulation as set forth in claim 35, wherein the active ingredient in the formulation is administered in the range of 0.1 to 6,000 mg/day/kg bw, for adults.

39. The formulation as set forth in claim 35, wherein the formulation comprises a pharmaceutically acceptable excipient such that it can be prepared in the form of beverages, foods or cosmetics.

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40. A process for preparing a Danshen extract, comprising:
subjecting Danshen (*Salvia miltiorrhiza*) to water or organic solvent extraction to obtain crude extracts;
filtering the crude extracts, followed by (vacuum) concentration; and
optionally, removing solvent.

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41. The formulation as set forth in claim 40, wherein the Danshen is a dried drug material or raw drug material.